

U.S. Patent Application Serial No. **10/519,410**
Amendment filed March 27, 2007
Reply to OA dated November 28, 2006

REMARKS

Claims 1-15 are pending in this application. The present amendment amends claims 1-15.

Upon entry of this amendment, claims 1-15 will be pending.

The applicant respectfully submits that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated **November 28, 2006**.

The following amendments to the claims are made for clarity only:

In claims 1, 2 and 5-10, the phrase “wherein the resin composition containing” is amended to --wherein the resin composition contains--. This amendment represents a grammatical correction.

The phrase “based on total 100 mass%” has been amended to: “wherein the sum of the polylactic acid resin and the polyester is 100 mass%.” This represents only a clarification of the original wording, and support for this amendment may be found in the original wording and in the specification on page 9, lines 14-18, which state: “the sum of the resin and the polyester being 100 mass%.”

In addition, the recitation “wherein the polyester is a biodegradable aliphatic polyester other than the polylactic acid resin” in claim 4 has been amended to --wherein the polyester is a biodegradable aliphatic polyester that is not a polylactic acid resin--. This amendment represents only a stylistic change, for clarity.

Support for the other amendments to the claims is detailed below.

U.S. Patent Application Serial No. 10/519,410
Amendment filed March 27, 2007
Reply to OA dated November 28, 2006

Claims 1-10 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obuchi (JP 2001049098) in view of Terada (U.S. 6,326,440). (Office action paragraph no. 1)

Reconsideration of the rejection is respectfully requested in view of the amendments to the claims.

Claims 1-5 have been amended to recite "A biodegradable sheet for molding." Support for this amendment may be found, for example, on page 4, lines 17-18, and page 39, lines 8-11, of the specification. This clarifies that the biodegradable sheet in these amended claims is "a sheet for molding" to form a molded article such as a deep-drawn molded article and blister molded article having a complicated shape.

The claims have also been amended to recite "wherein the thickness of the sheet is 100 μm to 500 μm ." Support for this amendment may be found on page 18, lines 4-5, of the specification, and in the Examples.

Regarding Obuchi:

Obuchi's polyester elastomers are additives **with low molecular weight** "having weight-average molecular weight of 300 to 30,000" and "preferably weight-average molecular weight of 5,000 to 10,000," which are used as **a tackifier**. Obuchi also discloses that when weight-average molecular weight of the polyester elastomer is more than 30,000, it may fail to realize adhesiveness or transparency specific to polylactic acid resins, (see paragraph [0034]).

Obuchi also discloses in the Prior Art section a composition composed by blending polylactic acid resins and biodegradable resins such as polybutylene succinate, polyethylene succinate, and polycaprolactone, noting that films of these various biodegradable resins have **small self-adhesivness**. (see paragraphs [0045] and [0005]). Therefore, Obuchi does not disclose or suggest blending these biodegradable polyesters.

In the present invention, it is preferable that a biodegradable aliphatic polyester is blended with the polylactic acid resin. (see page 13, lines 12-15, of the specification). Examples of the biodegradable aliphatic polyesters include polybutylene succinate, and so on. (see page 15, line 24, to page 16, line 7).

It appears that Obuchi's **polyester elastomers used as a tackifier** do **not** correspond to a polyester having a glass transition temperature of 0°C or less and a melting point higher than the glass transition temperature of the polylactic acid resin, as required by the present claims (see page 12, lines 20-23). Note that the polyesters disclosed in Obuchi do not correspond to those in the present specification, which do meet this limitation.

In addition, Obuchi does not disclose a method of obtaining molded articles from a sheet for molding and does not disclose a sheet for molding, and in particular, does not disclose a sheet wherein the thickness of the sheet is 100 μm to 500 μm , as in the amended claims.

U.S. Patent Application Serial No. 10/519,410
Amendment filed March 27, 2007
Reply to OA dated November 28, 2006

Regarding Terada (US 6326440)

Terada discloses a biodegradable film with good heat-sealability and particularly a film being able to be used in the form of bags. Terada does not mention the thickness of the film; however, a film with the thickness of 40 μm is used in Examples. By contrast, the sheet for molding in the present invention has the thickness of 100 to 500 μm .

Terada does not disclose a sheet for molding molded articles nor molded articles from a sheet for molding. Terada does not teach nor suggest **a biodegradable sheet for molding with the thickness of 100 to 500 μm** .

Applicant therefore submits that claims 1-10 and 12-15, as amended, are not obvious over Obuchi JP '098 and Terada '440, taken separately or in combination.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Obuchi in view of Terada in further view of Yamada (WO 2003/022927, U.S. 2005/0043462 is used as an equivalent English document). (Office action paragraph no. 2)

The rejection of claim 11 over Yamada is respectfully traversed, and reconsideration of the rejection is requested.

Applicant first wishes to clarify the prior art status of Yamada. U.S. Patent Publication 2005/0043462 is the publication of USSN 10/488,498, filed March 2, 2004, claiming priority of

U.S. Patent Application Serial No. **10/519,410**
Amendment filed March 27, 2007
Reply to OA dated November 28, 2006

PCT/JP02/08956, filed on September 3, 2002. The effective U.S. filing date of the present application is **July 7, 2003** (the filing date of PCT/JP2003/008590).

Yamada et al. U.S. Patent Publication '462 could be prior art under 35 U.S.C. 102(e)(1) only as of its filing date of March 2, 2004, and therefore, US Pat. Publ. '462 is **not prior art** for the present application. In addition, Yamada et al. WO '927 was published in **Japanese**, and PCT/JP02/08956 is also not be prior art under 35 U.S.C. 102(e)(2).

Therefore, WO '927 is prior art only under 35 U.S.C. 102(a) as of its publication date, which is March 20, 2003.

Regarding the merits of the rejection, the Examiner cites Yamada for disclosing a biodegradable resin composition. The general disclosure of Yamada is of a composition comprising 100 parts of a biodegradable polyester resin comprising not smaller than 50% by weight of polylactic acid having a melting point of not lower than 160 °C, and 0.1 to 20 parts of a phyllosilicate containing a primary, secondary, tertiary, or quaternary amine, or a phosphonium salt ionically bonded between the layers.

The Examiner cites Yamada for disclosing a post-crystallization step in paragraph [0065]. This paragraph generally discloses the temperature of the cylinder in an injection molding process, stating that it should be not lower than the T_m or fluidization temperature of the biodegradable polyester resin, and not higher than (T_m-20) °C of the biodegradable resin.

U.S. Patent Application Serial No. **10/519,410**
Amendment filed March 27, 2007
Reply to OA dated November 28, 2006

However, since Yamada's temperature limitations are based on the T_m of the "biodegradable resin," it does not appear that Yamada is disclosing the limitations of molding in claim 11, which are based on the T_g of the polyester relative to the polylactic acid resin.

Moreover, Yamada discloses that 0.01 to 10 parts by weight of "aliphatic polyesters" can be blended based on 100 parts of polylactic acids (claim 8) and that:

"The amount of the compound to be added is preferably 0.01 to 10 parts by weight, more preferably 0.02 to 5 parts by weight, based on 100 parts by weight of the biodegradable polyester resin. If the addition amount is greater than 10 parts by weight, the heat resistance and mechanical strength of the biodegradable polyester resin composition are remarkably reduced" (paragraph [0039]).

Therefore, Yamada appears to be teaching a maximum of 10 polyester per 100 parts overall resin, which would be teaching away from the compositional requirement of the present claims of 25 to 75 mass% of the polyester.

Claim 11 is therefore not obvious over Yamada WO 2003/022927.

Claims 1-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3, 4, 7 and 8 of copending Application No. 10/595,261. (Office action paragraph no. 3)

Since this is a provisional rejection over a copending application, Applicant respectfully defers responding to the rejection.

U.S. Patent Application Serial No. **10/519,410**
Amendment filed March 27, 2007
Reply to OA dated November 28, 2006

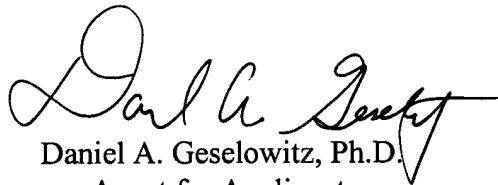
In view of the aforementioned amendments and accompanying remarks, claims 1-15, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the Applicant's undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS,
HANSON & BROOKS, LLP



Daniel A. Geselowitz, Ph.D.
Agent for Applicant
Reg. No. 42,573

DAG/bh
Atty. Docket No. **040707**
Suite 1000
1725 K Street, N.W.
Washington, D.C. 20006
(202) 659-2930



23850

PATENT TRADEMARK OFFICE